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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,135	03/31/2004	Kemal Ozanoglu	03-S-052	9179

30429 7590 10/03/2006

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EXAMINER	
NEGRON, DANIELL L	
ART UNIT	**PAPER NUMBER**
2627	

DATE MAILED: 10/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/815,135	OZANOGLU ET AL.	
	Examiner	Art Unit	
	Daniell L. Negrón	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-8,10-13,15-20,22 and 23* is/are rejected.

7)☒ Claim(s) *9,14 and 21* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements (IDS) submitted on May 25, 2004 and November 9, 2005 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Election/Restrictions

2. Applicant's election with traverse of the species of Figure 3 in the reply filed on August 24, 2006 is acknowledged. Applicant's arguments are that "Figure 3 may be construed as a more specific example of the embodiment shown in Figure 2" and in light of the fact that "the Restriction Requirement indicates that 'there is no disclosure of a relationship between the species'", the Applicant argues that "at the end of para. [0027], Applicant indicates that the specific configuration of the filter 230 and the controller 240 may be varied to practice the invention and that it may be useful to provide a more 'particular embodiment of a preamplifier' to further describe the features of the invention. This sentence is followed by the discussion of the preamplifier 310 in Figure 3, which provides a relationship between the two illustrated preamplifiers 210 and 310". This is not persuasive because par. [0027] states that Figure 3 shows **at least one more particular embodiment** of the preamplifier. This means that Figure 3 is a distinct embodiment from that shown in Figure 2. Further, Applicant's statement that the discussion of Figure 3, provides a relationship between the two preamplifiers 210 and 310, Figures 2 and 3, abuses the legal meaning of "relationship" in the context of the phrase, supra, in the Restriction Requirement. The question is one of whether the species are mutually exclusive, i.e., capable of use together, and not whether they have any operational

similarities/commonalities. It is obviously true that all species have operational similarities/commonalities, since commonalities are what generic claims are drawn to and the distinct variations that define the species are directed to the same component(s), e.g., in this case, the preamplifier configuration.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6, 10-12, and 15-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Sutardja U.S. Patent No. RE 37,751 E.

Regarding claim 1, Sutardja discloses a preamplifier for processing read head signals to correct for thermal asperity transients comprising an input gain stage (102 or 103) receiving a read head signal from the read head, a correction circuit connected to the input gain stage comprising a filter controller (204) detecting a thermal asperity transient in the read head signal and generating a control signal (i.e., TA_Interval) based on the detecting and further comprising a filter (210) operating dynamically based on the control signal to at least partially filter the detected thermal asperity transient from the read head to produce a filtered read signal, and a reader output buffer (108) receiving and transmitting the filtered read head signal (column 3, line 58-67 and column 4, line 6-12).

Regarding claim 2, Sutardja discloses a preamplifier wherein the filter (210) is connected in series with the input gain stage (102 or 103) and the reader output buffer (108) (see Fig. 4).

Regarding claim 3, Sutardja discloses a preamplifier wherein the filter comprises a voltage controlled high pass filter and wherein the control signal comprises a voltage signal (column 4, line 6-12).

Regarding claim 4, Sutardja discloses a preamplifier wherein the filter controller (204) receives as an input signal an output voltage of the voltage controlled high pass filter or an input voltage of the voltage controlled high pass filter (see Fig. 4 and disclosure thereof).

Regarding claims 5 and 6, Sutardja discloses a preamplifier wherein the filter controller (204) comprises a low pass filter (220) for identifying peaks in the input signal (see Fig. 2D and disclosure thereof).

Regarding claims 10-12 and 15, method claims 10-12 and 15 are drawn to the method of using the corresponding apparatus claimed in claims 1-6. Therefore method claims 10-12 and 15 correspond to apparatus claims 1-6 and are rejected for the same reasons of anticipation as used above.

Regarding claims 16-19, claims 16-19 have limitations similar to those treated in the above rejections of claims 1-6, and are met by the reference as discussed above.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 7, 8, 13, 20, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sutardja U.S. Patent No. RE 37,751 E in view of Eliezer et al U.S. Patent No. 6,735,260.

Regarding claims 7 and 8, Sutardja discloses a preamplifier comprising all the limitations of claim 5 as discussed above further comprising a threshold detector (222) and a pulse widener (224) for generating a control signal to control the high pass filter, but fails to explicitly show the filter controller having a non-linear function generator, adapted to produce an increasing function of an absolute value of the output of the detector, and wherein an output of the detector is applied to the non-linear function generator to generate the control signal for the filter.

However, providing it is considered an art recognized equivalent to provide a non-linear function generator for the purpose of providing a control signal as supported by Eliezer et al (column 8, line 65 through column 9, line 11), it would have been an obvious matter of design choice to implement a non-linear function generator for the purpose of generating a control signal since the Applicant has not disclosed that doing so solves any stated problem or is for any particular purpose and it appears that the claimed invention would perform equally well with the transient detector disclosed by Sutardja.

Regarding claim 13, method claim 13 is drawn to the method of using the corresponding apparatus claimed in claims 7 and 8. Therefore method claim 13 corresponds to apparatus claims 7 and 8 and is rejected for the same reasons of obviousness as used above.

Regarding claim 20, claim 20 has limitations similar to those treated in the above rejections of claims 7 and 8, and are met by the references as discussed above.

Regarding claims 22 and 23, claims 22 and 23 have limitations similar to those treated in the above rejections of claims 7 and 8, and are met by the references as discussed above.

Allowable Subject Matter

7. Claims 9, 14, and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 9, 14, and 21, prior art fails to disclose or suggest an apparatus and corresponding method for dynamic correction of thermal asperities comprising all the limitations of preamplifier of claims 8, 13, and 20 respectively further wherein the non-linear function generator comprises $(|V_{IN}|/V_C)^4$ or $e^{|VIN|/VC}$ wherein V_{IN} is the output of the detector and V_C is a control coefficient.

Prior Art

Yeung et al U.S. Patent No. 6,051,997 is cited as of interest for disclosure of a peak detector circuit for correcting thermal asperity transients.

Franck U.S. Patent No. 6,252,459 is cited as of interest for disclosure of a filter circuit for correcting thermal asperity transients.

Voorman et al U.S. Patent No. 6,381,082 is cited as of interest for disclosure of a peak detector circuit for correcting thermal asperity transients a amplifier circuit in a hard disk drive apparatus similar to Applicant's claimed invention.

McEwen et al U.S. Patent No. 6,446,236 is cited as of interest for disclosure of an apparatus for correcting thermal asperity transients and random errors.

Takahashi U.S. Patent Application No. 2002/0008928 is cited as of interest for disclosure of the implementation of high pass and low pass filters in amplifier circuits for transient correction.

Chambers et al U.S. Patent Application No. 2002/0122265 is cited as of interest for disclosure of a thermal asperity signal detection circuit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniell L. Negrón whose telephone number is 571-272-7559. The examiner can normally be reached on Monday-Friday (8:30am-5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne R. Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DLN
September 28, 2006

WAYNE YOUNG
SUPERVISORY PATENT EXAMINER